do not interfere with the bearing, and they stop the dust before it comes to the bearing. The constant daily shower of sand from the sea-breeze and neighbouring shore would soon destroy any pivot working in the ordinary way, and this consideration suggested the collar mounting, which was intended to be as close fitting as possible. No iron was used in the work, the liability to rust in such a situation makes the material unsuitable.

The instrument thus fitted up continues to work satisfactorily. There are no counterpoises, Capt. Shortrede (luckily perhaps) not having had time to procure them before quitting Bombay.

Letter from Mr. Dawes announcing the Detection of Two new Double Stars.

"On December 12th, 1847, I observed 42 (*c*) *Orionis* to be close double; magnitudes 5 and 9; distance about 1″·8. An elegant object which could scarcely have been overlooked by the Herschels and Struve, if it has not recently come out.

"On January 15th, 1848, *η Orionis* was discovered to be close double; the magnitudes of the components being 4 and 5, and distance 1″. It is a beautiful object of its class, and can scarcely fail to prove a *binary* system. Sir W. Herschel observed this star in 1781, and, on account of a small star distant about two minutes in the n. f. quadrant, entered it as vi. 67. But he did not notice it as close double; neither did Struve at Dorpat. Yet, with a 6-inch aperture, it is now perfectly separable. As, therefore, it may be an object of much interest, the attention of double-star observers is specially requested for it during its present apparition."

Longitude of Port Essington. By Mr. H. Breen, Jun. of the Royal Observatory, Greenwich.

The meridian passages of the moon from which the following longitude is deduced were observed by Capt. O. Stanley, R.N. F.R.A.S. The original observations were forwarded some time ago to the Society by Capt. Stanley, and Mr. Breen recently undertook their reduction, which he has performed thus:—

He first corrected the observations for errors of azimuth and level, the instrument being supposed to be adjusted in collimation. From the transits thus corrected and an approximate longitude, the errors and rates of the mean solar chronometer on the days of observation were computed, and from these data the observed right ascension of the moon was deduced. Mr. Breen then interpolated the moon's right ascension from the *Nautical Almanac* (*Moon-Culminating Stars*) for two assumptions of longitude differing one minute, with fourth differences inclusive; and finally applied the correction which was required to satisfy the observations of Green-

wich, Cambridge, Edinburgh, and Hamburg. The final results are,—

East Longitude, Port Essington.

			h	m	s	
1839.	June	20	8	48	69·23	
		24			18·24	
		25			31·12	
	Aug.	19			44·37	
		22			40·82	
	Sept.	16			55·00	
		17			54·10	
		18			53·58	
		20			51·35	
		21	8	48	28·53	
	Mean		8	48	44·64	East.

Two observations on June 22 and Sept. 22, which seem to have been noted 1^m too late, are omitted.

Mr. Breen has also furnished the following longitudes deduced from observations contained in the *Monthly Notice* for December 1846.

1. RAINE'S ISLAND. Occultation ν *Aquarii*. July 2, 1844.

East Long. $= 9^h\ 36^m\ 32^s\cdot86 + 1\cdot382\,(x-e) - 1\cdot264\,(y-f) + 1\cdot897\,n$. Immersion.

$= \quad 63\cdot77 + 1\cdot545\,(x-e) - 0\cdot701\,(y-f) - 1\cdot729\,n$. Emersion.

2. NEPEAN ISLAND, *Torres Straits*. Occultation λ *Libræ*. March 27, 1845.

East Long. $= 9^h\ 35^m\ 7^s\cdot45 + 1\cdot422\,(x-e) + 1\cdot332\,(y-f) + 2\cdot013\,n$. Emersion.

3. DARNLEY ISLAND. Occultation ϱ *Sagittarii*. May 24, 1845.

East Long. $= 9^h\ 35^m\ 15^s\cdot40 + 1\cdot406\,(x-e) - 0\cdot928\,(y-f) + 1\cdot746\,n$. Immersion.

x and y are the seconds of space which are to be *added* to the right ascension and north polar distance of the moon in the *Nautical Almanac* to produce the correct place.

e and f are the seconds of space which ought to be *added* to the assumed right ascension and north polar distance of the star.

n is the correction to the moon's semidiameter taken from the *Nautical Almanac*.

The assumed place of ν *Aquarii* is taken from the *Greenwich Catalogue of* 1439 *Stars*; λ *Libræ* and ϱ *Sagittarii* from the *Nautical Almanac of* 1845, section *Occultations*.